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SIR WILLIAM HERSCHEL.

It is a common remark, and one borne out by experience, that genius is not hereditary on the father's side. We rarely find both father and son highly distinguished, at least in the same department. But, like all other general rules, this has its exceptions. If the second William Pitt was inferior to the Great Commoner in oratorical power, in commanding force of character, and in statesmanlike breadth of view, he was still a man of great eminence, and probably exerted even a more powerful and lasting influence over the destinies of the country than his illustrious father. Again, though George Stephenson, who conferred incalculable benefits upon his species, and an immortality upon himself, by originating the great railway system, was a most remarkable instance of how much may be accomplished by heaven-born genius in spite of deficient education, it may be questioned whether his son Robert, who, besides being equally gifted by nature, has enjoyed the advantage of a superior scientific education, will not leave behind him more stupendous monuments of engineering skill. Another striking exception to the above rule is supplied by the two Herschels, both of whom have won lasting renown by their astronomical investigations and discoveries. And what renders their case still more remarkable is, that another member of the same family, Miss Caroline Herschel, the sister of the father, is entitled to a share of the honour which encircles the name, having not merely assisted in their observations and computations, but herself discovered a comet.

SIR WILLIAM HERSCHEL.

It is much to be regretted that so few particulars are known with respect to the life of Sir William Herschel; for not only do his distinguished astronomical discoveries give an interest to everything connected with him, but his history—at least the early part of it—was in itself more full of incident than is commonly the case with men of scientific or literary pursuits. Like Handel, the great musical composer, he was a German by birth, and an Englishman by adoption. He was born at Hanover, November 15, 1738. His father, who was a musician, brought him up, with four other sons, to that profession, giving them all a good general education. Having been placed in the band of the Hanoverian regiment of guards at the age of fourteen, he went over with them to England somewhere about the year 1757 or 1759. According to other accounts, he came over here alone. The place where he first settled was Durham, whence he removed to Halifax. Here he remained for several years as organist and teacher of music, at the same time devoting his leisure hours to the study of languages. A variety of apocryphal stories are told of this part of his career, some of which are certainly incorrect.

It was not till about the year 1766, when he was organist to the Octagon Chapel at Bath, that Herschel began to direct his attention to that noble science which he afterwards cultivated with so much success. His knowledge of mathematics was very considerable, and his skill in applying it sufficed to demonstrate that he might have won the highest distinction in that department of science, if he had confined himself to it. With this preliminary advantage he commenced the study of astronomy under very favourable circumstances. Before long he began to feel the want of a better telescope than he possessed or could purchase. Here was a difficulty which, to an ordinary mind, would have appeared insuperable. It is at such turning-points as these that the true character of a man appears. The commonplace person, who lives only according to a prescribed routine, and has no resources within himself for trying emergencies, no sooner encounters an obstacle than his heart fails him, and he foregoes the object of his pursuit almost without a struggle. Not so the man of genius. To him difficulties are but incentives to pleasurable exertion. It matters not how unexpected or how unprecedented to him they may be, he is never at a loss for some means of overcoming them. Such was the case with Herschel at this juncture. Not being able to purchase, or in any other way procure, a telescope of the size and power he wanted, he determined to make one. As may be supposed, his first attempts were not successful; but, nevertheless, he still persisted in them, undaunted by repeated failures, till at length he succeeded in constructing a Newtonian reflecting telescope of five feet focal length.

Nor was Herschel long in turning to account the resources which he had acquired by his constructive skill and industry. He applied himself diligently to a careful observation of the heavenly bodies, and the study of all the phenomena which throw light upon their constitution, movements, and laws. The results of his observations were communicated in his papers of "Philosophical Transactions," one of the earliest of which contained an announcement of his having discovered what was then supposed to be a comet, but was soon ascertained to be a new planet. The discovery took place between ten and eleven o'clock on the evening of March 13, 1781. While observing some stars in the constellation Gemini, Herschel noticed one that appeared larger than the rest, and, on examining it with greater magnifying power, he soon found its position with relation to the other stars was changed, which proved that it was in motion. It is remarkable that the planet had been repeatedly observed, and its position recorded as a fixed star by various astronomers, one of whom, Lemonnier, could not have failed to discover that it was a planet, if he had but brought into one view all his observations of the same object. In a spirit of misguided loyalty—or, as many would say, unworthy flattery—Herschel proposed to call the planet Georgium Sidus, or the Georgian Star, in honour of George the Third, who was then king. But astronomers, who have other objects in view than the gratification of royal vanity, could hardly be expected to accede to such a title; still less could foreigners consent to pay such homage to a sovereign who had no claim upon their allegiance. Laplace, the celebrated French astronomer, with a praiseworthy desire to honour the discoverer, proposed that the planet should bear his name; and many acted upon his suggestion. But even this did not meet with general acceptance; and after some discussion, the name of Uranus, by which the planet is now known, was proposed by Bode and fixed upon as most appropriate.

The next discovery of Herschel took place in the early part of the year 1787, when he established the existence of two satellites of Uranus, and made an approximation to the time of their revolution. Ten years later he discovered the four other satellites of this planet. He had great difficulty in discerning them, and they have scarcely ever been seen since, whence some have been inclined to question their existence; but there appears to be no sufficient ground for doubt on the subject.

The effect of Herschel's discovery of Uranus, was to bring him at once into public notice. His fame spread all over the continent, and he was appointed private astronomer to George III., with a salary of £400 a-year. He now removed first to Datchet, and afterwards to Slough, where he pursued his researches with unremitting ardour and great success. He married a widow named Mrs. Pitt, who was the mother of Sir John Herschel, the present worthy inheritor of the illustrious name. Of his private life after this time little can be said, because little is known on good authority. So scanty is the information respecting it, that even the dates of his knighthood, and receiving the degree of Doctor of Laws at Oxford, cannot be ascertained. But what we do know is, that for a long series of years, from 1780 to 1821, he communicated to the Philosophical Society a great number of papers upon the subject of his astronomical studies, thus showing that to the very last he retained his ardour in the pursuit of truth; for on the 23rd of August, 1822, death brought his labours to a close, when he had nearly completed his eighty-fourth year.

It is beyond our province to give any detailed account of the discoveries of this great astronomer; but the bare fact that his various contributions to our knowledge of the solar system increased the number of heavenly bodies in it by one-half, shows how well-founded is his claim to universal admiration. Besides Uranus with its six satellites, and the two satellites of Saturn, he discovered the rotation of Saturn's ring, measured the rotation of Saturn and Venus, and by many observations and well-founded reasonings contributed largely to the advance of modern astronomy. Indeed it may safely be asserted, that to no one are we so deeply indebted for what we know of the solar system. But his discoveries were not confined to the solar system. It was he who first opened our eyes to the infinite vastness of the universe, by showing that our system is only one of a countless number of others, which extend throughout the boundless regions of space, not only far beyond mortal ken, but even beyond the most daring flights of human imagination. His discovery, in 1803, that many objects which looked like single stars, and had hitherto been taken to be such even by astronomers, were, in fact, pairs of stars revolving round each other, was the first step to more just conceptions than had previously prevailed upon this subject; and his grand speculations upon the milky way, nebulæ, etc., contributed still further to this desirable result. Imperfect as is this sketch of what Sir William Herschel accomplished, it may be sufficient to show that he made many valuable additions to our astronomical knowledge; and when we reflect how important a bearing this knowledge has upon various practical arts—especially that of navigation and all that depends upon it—we see how great a benefactor he was to mankind, and how worthy he is to occupy an honourable place in the grateful recollections of posterity.

AMBOYNA, OR THE ISLAND OF DEW.

The Isle of Dew, as the Dutch call the chief of the Moluccas, is little known to the world. Though only occupying a space of thirteen geographical miles, it has 30,000 inhabitants. It presents a very varied aspect. It rises from the sea towards a centre, with a gradual but broken slope dipping into valleys, casting up clusters of hills, or expanding into little table-lands. Some of the hills present a very pleasing appearance, green and verdant to the summit, while some have only woods at the base. English and Dutch travellers vie with each other in their descriptions of this capital of the Spice Islands. Temminck talks of an atmosphere laden with the soft odour of aromatic plants and flowers, and of rich plains shaded by sago and cocoa-palms. The prospect he declares to be enchanting in its beauty. Ver Huell is more enthusiastic than his comrade in description. The flowers of the island fill the air with fragrance. According to him, it is a perfect Eden, where a Sybarite might dwell in ease and luxury and voluptuousness all the days of his life. Some parts, however, are barren, but others are luxuriantly fertile. Here the nutmeg and the clove grow in rich perfection, and bring riches to the Dutch of more sure return than silver and gold-mines.

In addition to the spices, the island produces woods affording fragrant essences and oils with medicinal virtues, exquisite woods